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In re Application of:

Jeff EDER

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For: A PERFORMANCE MANAGEMENT PLATFORM

Group Art Unit: 3693

Examiner: Jennifer Liversedge

Reply Brief

This reply brief is being submitted in response to the Examiner's Answer for the above referenced application mailed on March 18, 2009. This reply brief summarizes the clear errors associated with the rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96 in the February 11, 2008 Office Action and in the Examiner's Answer for the above referenced application.

This reply brief should be reviewed in conjunction with the supplemental brief on appeal for the above referenced application that was submitted on April 30, 2009.

The reply brief will focus first on the clear errors in the grounds of rejection for obviousness contained in issue #1, issue #2 and issue #3 shown below and will then focus on the clear errors in the rejections under 35 USC 112, first paragraph contained in issue #4 and issue #5.

The grounds of rejection to reviewed for this appeal are:

Issue 1 – Whether claim 75, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95 are patentable under 35 USC §103(a) over "Premium Drivers of Post Deal Value" in Mergers and Acquisitions (hereinafter, Bielinski) in view of "Outdated corporate reporting practices fail to measure companies' true value" in M2 Presswire (hereinafter, M2) and further in view of "Finance and economics: shining a light on company accounts" in the Economist (hereinafter, Economist)?

Issue 2 - Whether Claims 76 is patentable under 35 USC §103(a) over Bielinski, M2, Economist and "The use of options theory to value research in the service sector" by K Jensen and P. Warren (hereinafter referred to as Jensen)?

Issue 3 - Whether claim 81, claim 85, claim 92 and claim 96 are patentable under 35 USC §103(a) over Bielinski, M2 and Economist in view of "Machine Learning Research – Four Current Directions" by Thomas Diettrich (hereinafter Diettrich)?

Issue 4 - Whether claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85 and claim 87 are enabled under 35 USC 112, first paragraph?

Issue 5 - Whether claim 86, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96 are enabled under 35 USC 112, first paragraph?

CLEAR ERRORS IN THE OBVIOUSNESS REJECTIONS

The two independent claims rejected for obviousness both use a series of multivariate analyses to transform data representative of an enterprise into a model of the enterprise by element of value and segment of value. Clear errors in the obviousness rejections include:

1) a failure to acknowledge that the cited references teach away from all the claimed methods,

2) a failure to acknowledge that the cited references do not teach or suggest almost all of the limitations of the claimed inventions,

3) a failure to acknowledge that the Examiner does not appear to have considered any of the claim limitations,

4) a failure to acknowledge that modifying the Bielinski references to replicate the claimed invention would change its principles of operation,

5) a failure to acknowledge that modifying the M2, Economist, Diettrich and Jensen references to replicate the claimed invention would change their principles of operation,

6) a failure to acknowledge that modifying the Bielinski reference to replicate the claimed invention would destroy its ability to perform its intended function,

7) a failure to acknowledge that the rationale for making the proposed combination of teachings has not been provided,

8) a failure to acknowledge that the claim rejections do not meet the requirements of the Administrative Procedures Act and are therefore moot, and

9) a failure to acknowledge that there is no statutory basis for giving any weight to an obviousness rejection authored and/or supported by individuals who do not have a level of skill in the art that is average or better.

Clear Error #1 – It is well established that "*in determining the difference between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious but whether the claimed invention as a whole would have been obvious (Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983)).*" Furthermore, it is well established that: *A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).* Clear error #1 is a failure to acknowledge that the cited references teach away from all the claimed methods as detailed below:

a) <u>All the references teach away from the claimed method of analyzing and modeling enterprise financial performance by segment of value</u>. Bielinski, which is the primary reference for all obviousness rejections, teaches and relies on the VBM method of discounted cash flow modeling. VBM uses Shareholder Value Analysis (hereinafter, SVA) principles, including the use of a single tree of equations to calculate cash flow and an enterprise value, but advances the technique by using historical data, operations linked value drivers and concurrent changes in multiple value drivers. In accordance with the VBM/SVA method, most of the tree is used for calculating the actual cash flow for prior periods. The remainder of the tree is used for determining the cost of capital used to discount the cash flow. Putting the two parts of the tree together, the VBM method teaches that the only way to increase enterprise value is to increase the value of period

cash flow. By way of contrast, the claimed invention teaches that as many as five segments of value determine the value of an enterprise.

Segments of value per 10/743,616	Segments of value per Bielinski
1. Current operation (cash flow), 2. Derivatives, 3. Financial assets, 4. Market sentiment and 5. Real options.	1. Cash flow (current operation)

Economist teaches away from analyzing and modeling an enterprise by segment of value as it focuses exclusively on adding the market value of derivatives to a corporate balance sheet. M2 teaches away from analyzing and modeling enterprise financial performance by segment of value as it focuses exclusively on company share price changes caused by different factors and by teaching that market sentiment is a factor instead of a separate segment of value. Jensen teaches away from analyzing and modeling an enterprise by segment of value as it teaches that real options should only be used for valuing research.

None of these references teach that there is any alternative to the methods outlined above. Given this fact, any reference to In re Fulton is inappropriate and disingenuous.

By exclusively teaching methods that teach away from the claimed modeling method, the references also teach away from the claimed method of valuing a share of enterprise stock. Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95.

b) All the references teach away from the claimed method of analyzing and modeling enterprise financial performance by element of value. Bielinski teaches the use of a single tree of equations to calculate an enterprise value from historical cash flow. The portion of the tree used for calculating historical cash flow is built by joining together a series of nodes where the inputs to each node are mathematically combined to produce a node output that becomes an input to a node at a higher level in the tree. The inputs to the VBM cash flow tree consist of:

- activities (i.e. volume of calls received, number of transactions completed and pounds of material used),
- counts (i.e. number of service delivery centers and number of employees),
- expenditure data (i.e. material costs, employee annual salary and cost per station), and

- summary measures (i.e. inventory turnover ratio and sales growth rate)

These low level inputs mathematically combine to produce the summary accounting numbers used for calculating the historical cash flow. By way of contrast, the claimed invention teaches that elements of value drive current operation cash flow (and the other segments of value) and that summaries of element of value performance are the only inputs to the models of each segment of value – including the current operation model. Consistent with the different teachings regarding the drivers of enterprise financial performance, Bielinski teaches a different definition of value drivers and defines sub-components of expense value as operational value drivers (see Table).

Aspect of financial performance	Designation per 10/743,616	Designation per Bielinski
Raw material cost	Sub-component of expense value	Operational value driver
Production labor cost	Sub-component of expense value	Operational value driver

Economist teaches away from analyzing and modeling an enterprise by element of value as it focuses exclusively on adding the market value of derivatives to a balance sheet (see Economist pages 1 - 2). As is well known in the art, market values are associated with items (as defined in the specification) not the elements of value. M2 teaches away from analyzing and modeling enterprise financial performance by element of value as it focuses exclusively on company share price changes. Jensen teaches away from analyzing and modeling an enterprise by element of value as it teaches that real option values are not dependent on the elements of value.

None of these references teaches that there is any alternative to the method outlined above. Given this fact, any reference to In re Fulton is inappropriate and disingenuous.

By exclusively teaching methods that teach away from the claimed modeling method, the references also teach away from the claimed methods of determining an element of value contribution and quantifying an element of value impact on enterprise financial performance. Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95.

c) All the references teach away from the claimed method of multivariate statistical analysis of enterprise financial performance. Bielinski teaches the use of a single tree of

equations to calculate the actual amount of enterprise cash flow and an enterprise value. Economist teaches the use of actual market value. By teaching a reliance on actual numbers, the Bielinski and Economist references teach away from statistical analysis. M2 teaches the analysis of share price instead of statistically analyzing enterprise financial performance. Jensen teaches an option modeling method that does not utilize statistical analysis. None of these references teaches that there is any alternative to the method outlined above. Given this fact, any reference to In re Fulton is inappropriate and disingenuous.

As noted in Clear Error #6, changing this aspect of the Bielinski invention destroys its ability to function. Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95.

d) Jensen teaches away from the claimed method of calculating a real option discount rate. Jensen teaches that real options should be valued using compound options that rely on volatility estimates derived from stock market comparables (see Jensen, page 4). Jensen does not teach that there is more that there is any alternative to the method outlined above. Given this fact, any reference to In re Fulton is inappropriate and disingenuous. By way of contrast, the claimed invention teaches that the real option segment of value has a value driven by the enterprise elements of value. Consistent with this teaching, the claimed invention also teaches use of a discount rate that is a function of the relative ranking of one or more enterprise elements of value. Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95.

e) Bielinski teaches away from the claimed method of analyzing enterprise financial performance by teaching and relying on different assumptions. Bielinski teaches the use of a single tree of equations to calculate an enterprise value and that enterprise cash flow is the sole determinant of value. Implicit in these teachings are three assumptions that teach away from the claimed method: the relationship between input values and actual cash flow is linear, there is no need to consider factors that have an indirect relationship to cash flow and the market is strong form, market efficient (aka market sentiment value is zero). Bielinski does not teach that there is more that there is any alternative to reliance on the assumptions outlined above and shown in the Table below. Given this fact, any reference to In re Fulton is inappropriate and disingenuous.

Assumptions	10/743,616	Bielinski
Relationship of inputs to actual levels	None, inputs may have a linear or non-linear effect on the value of the segments of value	Inputs have a linear effect on cash flow
Inputs analyzed	Elements of value that may have a direct and/or an indirect impact on segment values	Activities, counts, expenditures and summary measures that have a direct relationship to cash flow
Market efficiency	None, market may be strong form, efficient (market sentiment value is zero) or it may be inefficient (market sentiment value may be above or below zero)	Market is strong form, efficient (aka standard valuation model) and market sentiment value is zero

By way of contrast, the claimed inventions teach and rely on the fact that a model for cash flow or other segments of value can utilize a non-linear and/or an indirect relationship between input values and the actual value. In a similar fashion, the claimed invention does not make any assumptions about market efficiency (see Table). Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95.

f) <u>Bielinski teaches away from the claimed method of optimizing one or more aspects of enterprise financial performance</u>. Bielinski teaches the use of sensitivity analysis and break even analysis to identify desirable changes in operation (see Table 2 on page 45 of the Appeal Brief and Table 3 on page 46 of the Appeal Brief). Bielinski does not teach that there is more that there is any alternative to reliance on the methods outlined above. Given this fact, any reference to In re Fulton is inappropriate and disingenuous. By way of contrast, the claimed invention teaches and relies on the use of optimization analyses to identify the most desirable set of changes in operation. Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84 and claim 87.

g) <u>Bielinski teaches away from the claimed method of quantifying and optimizing a future enterprise market value</u>. Bielinski teaches away from the use of projections that are required for a future value optimization analysis by teaching a strict reliance on five years of historical cash flow (see page 43 of the Appeal Brief). Bielinski also teaches away from the claimed optimization analysis method as discussed under item h) above. Bielinski does not teach that there is more that there is more than one acceptable alternative to the prohibition on forecasts (aka projections). Given this fact, any reference to In re Fulton is inappropriate and disingenuous. By way of contrast, the claimed invention teaches the use of forecasts (aka projections) as part of a future market value optimization analysis.

Affects claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84 and claim 87.

h) <u>Diettrich teaches away by teaching from the claimed the use of neural network and Bayesian models for regression analysis</u>. Diettrich teaches away by teaching the use of the same algorithms for classification and by teaching ensembles of regression models in place of a single regression model (Diettrich, page 8). Affects claim 81, claim 85, claim 92 and claim 96.

Because the cited documents all exclusively teach methods that teach away from the claimed methods, the prima facie case of obviousness can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #2 - It is well established that *"when determining whether a claim is obvious, an examiner must make 'a searching comparison of the claimed invention – including all its limitations – with the teaching of the prior art.' In re Ochiai, 71 F.3d 1565, 1572 (Fed. Cir. 1995). Thus, 'obviousness requires a suggestion of all limitations in a claim.' CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (CCPA 1974))* Furthermore, the Board of Patent Appeal and Interferences recently confirmed (In re Wada and Murphy, Appeal No. 2007- 3733) that a proper, post KSR obviousness determination still requires that an examiner must make "a searching comparison of the claimed invention – including all its limitations – with the teaching of the prior art." In re Ochiai, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). In other words, obviousness still requires a suggestion of all the limitations in a claim. Clear error #2 is a failure to acknowledge that the cited references do not teach or suggest almost all of the limitations of the claimed inventions as detailed below:

Claims 75 and 86 (also affects claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95). The cited combination of documents does not teach or suggest:

(a) developing a computational model of enterprise market value by element of value and segment of value by completing a series of multivariate analyses.

(b) quantifying an element of value impact on enterprise financial performance,

(c) determining an element of value contribution,

(d) optimizing one or more aspects of enterprise financial performance,

(e) preparing a plurality of data related to a commercial enterprise for use in processing,

(f) calculating a real option discount rate,

(g) quantifying and/or optimizing a future enterprise market value (Bielinski teaches away as detailed under reason #1),

(h) valuing a real option,

(i) valuing an enterprise market sentiment,

(j) valuing a share of enterprise stock; and/or

(k) determining a target share price.

Claim 76. The cited combination of documents does not teach or suggest real options that are valued using a discount rate that is a function of the relative ranking of one or more enterprise elements of value.

Claims 77 and 88. The cited combination does not teach or suggest: where an element of value is selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, employee relationships, intellectual capital, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

Claims 78 and 89. The cited combination does not teach or suggest integrating data from a plurality of enterprise related systems in accordance with a common schema.

Claims 79 and 90. The cited combination does not teach or suggest optimizing aspects of financial performance selected from the group consisting of revenue, expense, capital change, real option value, derivative value, future market value and/or market sentiment value.

Claims 80 and 91. The cited combination does not teach or suggest where a series of multivariate analyses are selected from the group consisting of identifying one or more previously unknown item performance indicators, discovering one or more previously unknown value drivers, identifying one or more previously unknown relationships between one or more value drivers, identifying one or more previously unknown relationships between one or more elements of value, quantifying one or more inter-relationships between value drivers, quantifying one or more impacts between elements of value,

developing one or more composite variables, developing one or more vectors, developing one or more causal element impact summaries, identifying a best fit combination of predictive model algorithm and element impact summaries for modeling enterprise market value and each of the components of value, determining a net element of value impact for each segment of value, determining a relative strength of a plurality of elements of value between two or more enterprises, developing one or more real option discount rates, calculating one or more real option values, calculating an enterprise market sentiment value by element of value, and combinations thereof.

Claim 81 and claim 92. The cited combination of documents does not teach or suggest using the listed algorithms as part of a multi stage process for developing regression models.

Claims 82 and 93. The cited combination does not teach or suggest wherein enterprise related data are obtained from systems selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases and combinations thereof.

Claims 83 and 94. The cited combination does not teach or suggest where an enterprise further comprises a single product, a group of products, a division or an entire company

Claims 84 and 95. The cited combination does not teach or suggest where a computational model of enterprise market value further comprises a combination of models selected from the group consisting of a predictive component of value model, a real option discount rate model, a real option valuation model, a derivative valuation model, an excess financial asset valuation model, a market sentiment model by element of value and combinations thereof.

Because the cited documents do not teach or suggest any of the limitations for almost all of the claims, the prima facie case of obviousness can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76,

claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #3 – it is well established that the "Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." In re Lowry, 32 F.3d 1579, 1582 (Fed. Cir. 1994). A review of Clear Error #1 and Clear Error #2 provides substantial evidence that none of the claim limitations were considered as the cited documents teach away from and/or do not suggest virtually every limitation. Clear Error #3 is a failure to acknowledge that the Examiner does not appear to have considered any of the claim limitations.

Because none of the claim limitations appear to have been considered, the prima facie case of obviousness can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #4 – It is well established that when "*the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)*". Bielinski which is the primary reference for all obviousness rejections, teaches and relies on four principles of operation that would have to be changed to replicate the functionality of the claimed invention.

One principle of operation Bielinski relies on is the standard model which teaches that cash flow is the sole determinant of enterprise value. This principle of operation would have to be changed to replicate the functionality of the claimed invention and recognize the fact that enterprise value includes a number of segments of value (real options, market sentiment, derivatives, etc.) that are not included in the standard model.

A second principle of operation that Bielinski relies on is that a single tree of equations can be used to both identify the inputs that are related to the actual amount of enterprise cash flow and calculate an enterprise value. This principle of operation would have to be changed to replicate the functionality of the claimed invention because the claimed inventions rely on a series of multivariate statistical analyses where the only inputs are element of value impact summaries and

the primary outputs are between one and zero (segment valuations are calculated separately). A single tree of equations can not be used to determine the actual amount of enterprise cash flow and/or calculate an enterprise value from the inputs used in the claimed analyses and changing to a series of analyses using statistical models for identifying relative contributions and calculating segment valuations would be a change in another principle of operation of the Bielinski invention.

A third principle of operation that Bielinski teaches and relies on is that activities, counts, expenditures and summary measures determine cash flow and that value drivers are high level summaries of enterprise financial performance like operating profit margin (see Appeal Brief Evidence Appendix, pages 42 - 46). Bielinski also teaches that operational value drivers are sub-components of expense value (i.e. raw material cost, human resource cost), and/or summary financial statistics (inventory turnover and sales growth percentage). This principle of operation would have to be changed to replicate the functionality of the claimed inventions because the claimed inventions teach and rely on the fact that elements of value drive cash flow (and other segments of value) and that value drivers are characteristics of elements of value.

A fourth principle of operation that Bielinski teaches and relies on is that analyses of cash flow only require consideration of the factors that have a direct, linear relationship to the actual cash flow. By way of contrast, the claimed invention teaches and relies on the fact that elements of value may have an indirect and/or non linear impact on cash flow and/or a segment valuation. The fourth principle of operation would have to be changed to add a consideration of the factors that have an indirect and/or non-linear relationship to cash flow to the analysis method taught by Bielinski.

Because the required modification of Bielinski would change four of its principles of operation, the prima facie case of obviousness can not be properly made. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #5 – It is well established that when "*the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)*". Changes in the principles of operation for

the references cited by the Examiner (other than Bielinski) are shown in the table below.

Reference	Principle of operation	Principle change required
M2	Chat-room rumors and gossip, earnings surprises, external events and market sentiment are separate factors that drive market price	Market sentiment is a segment of value with a value that is a function of element of value performance
Economist	Market value used for evaluating derivatives	Risk neutral valuation used for evaluating derivatives
Diettrich	Neural network and Bayesian algorithms used for classification	Use the same algorithms for regression
Jensen	Real options should be evaluated using compound options that are valued using volatility rates associated with publicly traded equities that are judged to be comparable	Real options valued using a discount rate that is a function of the relative strength of the elements of value that support the option

Because the required modification of M2, Economist, Diettrich and Jensen would change their principles of operation, the prima facie case of obviousness can not be properly made. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #6 – It is well established that *when a modification of a reference destroys the intent, purpose or function of an invention such a proposed modification is not proper and the prima facie cause of obviousness cannot be properly made (In re Gordon 733 F.2d 900, 221 U.S.PQ 1125 Fed Circuit 1984)*. Bielinski which is the primary reference for all obviousness rejections, teaches and relies on a single tree to calculate enterprise value and to identify a combination of factors that mathematically combine to equal the amounts used in a cash flow calculation that is the basis of the valuation.

The claimed computational model of enterprise market value by element of value and segment of value comprises predictive models for up to four segments of value, the current operation, derivative, excess financial asset and market sentiment segments of value. Bielinski relies on a single tree of equations to both identify the inputs that are related to the actual amount of enterprise cash flow and calculate an enterprise value. Modifying the Bielinski invention to use a predictive model that completes a statistical analysis for all or part of the tree would destroy its ability to perform its intended function (see Reply Brief Appendix, pages 34 - 38). It should be

noted that if the Bielinski tree were not modified to use a predictive model, then it would not be able to replicate any of the functionality of the claimed invention.

Because the required modification of Bielinski would destroy its function, the prima facie case of obviousness can not be properly made. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #7 – It is well established that as part of an obviousness rejection the Examiner needs to explain the rationale for combining the teachings of the cited documents in an attempt to replicate the functionality of the claimed invention. *The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting In re Kahn 41 stated that "'[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness (KSR, 550 U.S. at I, 82 USPQ2d at 1396).'"*

In spite of this well know requirement, the Examiner has not provided the required explanation. In particular, the Examiner has not explained what would motivate someone of average skill in the art to destroy the functionality of the Bielinksi invention and modify the principle of operation of all the references as discussed under Clear Error #4, Clear Error #5 and Clear Error #6. This explanation is particularly important when one considers that the cited documents teach away from all claimed methods and/or fail to teach or suggest almost every claim limitation as discussed under Clear Error #1, Clear Error #2 and Clear Error #3. In place of an explanation with articulated reasoning and a rational underpinning the Examiner has simply noted that documents containing some of the same words and word pairs used in the claims have been identified and has then made a series of conclusory statements that it would be obvious to modify their teachings to replicate the claimed invention.

Because no rational underpinning has been provided to support the legal conclusion of obviousness, the prima facie case of obviousness can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #8 –   In Dickinson v. Zurko, 119 S. Ct. 1816, 50 USPQ2d 1930 (1999), the Supreme Court held that the appropriate standard of review of USPTO findings are the standards set forth in the Administrative Procedure Act ("APA") at 5 U.S.C. 706 (1994).   The APA provides two standards for review – an arbitrary and capricious standard and a substantial evidence standard.   The Appellant respectfully submits that discussion in the preceding paragraphs (see Clear Error #1, Clear Error #2, Clear Error #3, Clear Error #4, Clear Error #5, Clear Error #6 and Clear Error #7) clearly shows that the relevant Office Action fails to provide even a scintilla of evidence to support the obviousness rejections and that as a result it fails to meet the substantial evidence standard.

The Appellant respectfully submits that the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95 also fails to pass the arbitrary and capricious test because:

   a) the references cited by the Examiner provide substantial evidence of novelty, non-obviousness and newness of the rejected claims;

   b) no rational underpinning has been provided to support the legal conclusion of obviousness (see Clear Error #7),

   c) the U.S.P.T.O. has found the use of a predictive model development technique similar to the one used to develop models for completing multivariate analyses in the claimed inventions to be novel, non-obvious and new when incorporated in a patent application filing with a priority date two years after the priority date of the instant application (please see U.S. Patent 7,283,982 comparison on page 9 of the Appeal Brief), and

   d) the U.S.P.T.O. has found the use of a multi-criteria optimization technique similar to the one used in the claimed inventions to be novel when filed in a patent application by a large company over four years after the priority date of the instant application (please see U.S. Patent 7,433,809).   The documented pattern of arbitrarily and capriciously issuing patents to large companies for inventions similar to those described in the earlier filed applications of the Appellant can also be observed in the related appeals for applications 09/761,670, 09/764,068, 10/750,792 and 11/278,419.

Because the claim rejections do not meet either standard of the APA, the prima facie case of obviousness can not be properly established.   Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89,

claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #9 - The selection of the Bielinski, M2, Economist, and Jensen documents in an attempt to support an obviousness rejection provides substantial evidence that those authoring the February 11, 2008 Office Action for the instant application appear to lack the level of skill in the art required to author a rejection for obviousness and/or for an alleged written description deficiency. It is well established that the "hypothetical 'person having ordinary skill in the art' to which the claimed subject matter pertains would, of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art." Ex parte Hiyamizu, 10 USPQ2d 1393, 1394 (Bd. Pat. App. & Inter. 1988). It is unlikely that anyone who understood the scientific and engineering principles applicable to the pertinent art would ever suggest Bielinski, M2, Economist, and/or Jensen as a reference in an obviousness rejection for the claimed inventions (see Clear Error #1, Clear Error #2, Clear Error #3, Clear Error #4, Clear Error #5, Clear Error #6, Clear Error #7 and Clear Error #8). The related appeals for applications 09/761,670, 09/764,068, 10/025,794 and 10/743,417 and the recent allowance and issue of patent 7,536,322 provide evidence that the apparent lack of the requisite skill in the arts appears to extend to every level of TC 3600. The ninth clear error is failing to acknowledge that there is no statutory basis for giving any weight to claim rejections for obviousness authored or supported by individuals who appear to have a level of skill in the relevant arts that is not average or better.

Because the claim rejections were developed and are supported by individuals who do not appear to have the requisite level of skill in the relevant arts, the prima facie case of obviousness can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the obviousness rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Summarizing the preceding discussion, the obviousness rejections for the above referenced application contain at least nine clear errors. Other clear errors could also be added to the list shown above. Recognition of any one of these clear errors is sufficient grounds to reverse all rejections for obviousness.

CLEAR ERRORS IN THE WRITTEN DESCRIPTION REJECTIONS

The two independent claims rejected for an alleged lack of written description enablement both use a series of analyses to transform specific data representative of an enterprise into a model of an enterprise market value by element of value and segment of value. After being developed, the model can optionally be used to perform a variety of tasks. None of these tasks were identified as essential in the specification. Clear errors in the written description rejections include:

10) a failure to acknowledge that the claim rejections have no statutory basis,

11) a failure to acknowledge that In re Mayhew, 527 F.2d 1229,188 USPQ 356 (CCPA 1976) was misquoted as part of an unsuccessful attempt to establish a statutory basis for the claim rejections,

12) a failure to acknowledge that the February 11, 2008 Office Action failed to establish a prima facie case that the written description was not enabling,

13) a failure to acknowledge that the specification enables the completion of the full scope of the activity combinations described in the Markush group,

14) a failure to acknowledge that the stated basis for the claim rejections do not apply to many of the rejected claims, and

15) a failure to acknowledge that the claim rejections do not meet the requirements of the Administrative Procedures Act and are therefore moot.

Clear Error #10 – *it is well established that "the test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). The determination that "undue experimentation" would have been needed to make and use the claimed invention is not a single, simple factual determination (In re Wands, 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988)). Factors which need to be considered include: the nature of the invention, the state of the prior art, the predictability or lack thereof in the art, the amount of direction or guidance present, the presence or absence of working examples, the breadth of the claims, the relative skill of those in the art and the quantity of experimentation needed* (hereinafter, referred to as the Wands factors)*. A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors* (the Wands factors)*, the specification, at the time the application was filed, would not*

have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation (In re Wright, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). More recently in *Invitrogen Corp. v. Clontech Labs, Inc., 429 F.3d 1052, 1058 (Fed. Cir. 2005), the Court referenced Engel Industries, Inc. v. Lockformer Co. 946 F.2d 1528 (Fed. Cir. 1991)* and concluded that *"the enablement requirement is met if the description enables any mode of making and using the claimed invention"*. This is similar to the position the court previously articulated in Spectra-Physics, Inc. v. Coherent, Inc., 827 F.2d 1524, 1529 (Fed. Cir. 1987).

In an attempt to provide evidence that the written description was not adequate, the Examiner has provided one, incorrect example of a situation that is allegedly not supported by the specification (see appeal brief for more analysis as to why the example was and is incorrect). At the same time, the Examiner has not provided any evidence regarding any of the Wands factors and/or that any experimentation would be required.

Because the Examiner reached the conclusion that the specification was not enabling based on a single, incorrect example while failing to provide any evidence that experimentation would be required, there was and is no statutory basis for the claim rejections. Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #11 - *it is well established that "the test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation."* United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). More recently in *Invitrogen Corp. v. Clontech Labs, Inc., 429 F.3d 1052, 1058 (Fed. Cir. 2005), the Court referenced Engel Industries, Inc. v. Lockformer Co. 946 F.2d 1528 (Fed. Cir. 1991)* and concluded that *"the enablement requirement is met if the description enables any mode of making and using the claimed invention"*. Instead of identifying a statutory basis for a written description rejection, the Examiner has misquoted In re Mayhew 527 F.2d 1229, 188 USPQ 356 (CCPA 1976) in an unsuccessful attempt to establish a statutory basis for the claim rejections.

As discussed in MPEP 2172.01, In re Mayhew, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976) teaches that a claim that omits matter disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 U.S.C. 112, first paragraph, as not enabling. The Examiner has cited this precedent as support for an unjustified

assertion that a detailed explanation of the combination of optional activities that are cited in the Markush Groups in claims 75 and 87 needs to be provided. As noted in the specification the completion of the listed activities is optional ("*The user (20) is given the option of*" – see line 21, page 79 of the specification). <u>Mayhew does not teach that a detailed explanation of different combinations of optional activities needs to be provided</u>.

Because In re Mayhew was apparently misquoted and/or misrepresented in a disingenuous attempt to establish a statutory basis for the claim rejections, the claim rejections are moot. Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #12 – It is well established that *"a description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. See, e.g., In re Marzocchi, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). The examiner, therefore, must have a reasonable basis to challenge the adequacy of the written description. The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. Wertheim, 541 F.2d at 263, 191 USPQ at 97. In rejecting a claim, the examiner must set forth express findings of fact regarding the above analysis which support the lack of written description conclusion. These findings should:*

> *(A) Identify the claim limitation at issue; and*
>
> *(B) Establish a prima facie case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. A general allegation of "unpredictability in the art" is not a sufficient reason to support a rejection for lack of adequate written description."*

The Examiner has identified "combinations of essential activities" as the claim limitation at issue, however, a prima facie case has not been established. As discussed under Clear Error #10, the Examiner only presented one incorrect example of an alleged problem and failed to consider the Wands factors. As discussed under Clear Error #11, the reasoning used by the Examiner to support the claim rejection relied on an apparent misrepresentation regarding In re Mayhew and failed to take note of the fact that the cited combinations describe optional activities.

Because the claim rejections were supported by incorrect evidence and improper reasoning, they do not reflect negatively on the specification in any way. However, they do add to the substantial evidence that those authoring the claim rejections lack the requisite skill in the art and knowledge of the law required to make meaningful statements in this regard.

Because the reasoning and evidence provided by the Examiner fail to establish that the inventor was not in possession of the invention as claimed, the prima facie case of a lack of written description enablement can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #13 – The basis for the written description rejection is two claims that each contain a Markush group with thirteen activities. As discussed previously and summarized below, the specification clearly enables the completion of the full scope of the combination of activities included in the Markush Groups in claims 75 and 87 under the four different modes of operation described in the specification and summarized by the claim. The four modes of possible operation are: after initial model development – the base case, after an analysis of change is completed, after an optimization analysis is completed and/or after a simulation is completed.

Nine of the thirteen activities can be completed at any time using the information developed after: an initial model is developed, an analysis of change is completed, an optimization analysis is completed and/or a simulation is completed. Analyses of change repeat the model development process (which the Examiner has not questioned) while optimization analyses identify new values for some variables and simulations identify a range of new values for some variables. Six of the nine activities are first completed as part of the model development process described in the specification: determining an element of value contribution, quantifying an element of value impact on enterprise financial performance, quantifying a future enterprise market value, valuing an enterprise market sentiment, calculating a real option discount rate and valuing a real option. Three of the nine activities, creating a management report, valuing a share of enterprise stock and determining a target share price are all completed in a manner that is well known. It is well established that there is no need to include knowledge well known to those of average skill in the art in the specification (*see Automotive Technologies. International, Inc. v. BMW of North America, Inc., 501 F.3d 1274, 1277 (Fed. Cir. 2007)*). Because the completion of these nine activities only requires a simple analysis or display of previously created data, the completion of these activities

does not require the completion of any other activity. This means that these activities can be completed alone or in combination with any other activity at any time. As mentioned in the Appeal Brief, the real option calculation can also be completed independently at any time.

The four remaining activities contained in the Markush groups in claims 75 and 87: completing an analysis of a change, optimizing one or more aspects of enterprise financial performance, simulating an enterprise financial performance and optimizing a future enterprise market value are fully described in the specification. Completing an analysis of a change involves re-running the model development process, which the Examiner has not questioned, after a user-specified change. Completing an optimization analysis can involve completing a linear program optimization which is well known in the art. Optimization analyses may also be completed after simulations are completed as described in the specification. Simulations are completed after one or more scenarios are developed using the innovative method detailed in the specification. As described previously, the completion of any of these four activities automatically enables the completion of the other nine activities. Furthermore, each of these activities can be completed alone or in combination with any of the other three activities at any time.

Because the specification enables completion of the full scope of the combination of activities described in the Markush groups in the rejected claims, there is no need for experimentation and the prima facie case of a lack of written description enablement can not be properly established (*see Liebel-Flarsheim Co. v. Medrad, 481 F.3d 1371, 1373 (Fed. Cir. 2007) and Sitrick v. Dreamworks, L.L.C., 516 F.3d 993, 997 (Fed. Cir. 2008)*). Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #14 - As discussed in the appeal brief, the stated basis for the claim rejections does not apply to claim 86, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96 as they do not depend on a Markush group with a combination of activities.

Because the stated basis for the written description rejection simply does not apply to many of the claims, there is no basis for their rejection. Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 86, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Clear Error #15 –   In Dickinson v. Zurko, 119 S. Ct. 1816, 50 USPQ2d 1930 (1999), the Supreme Court held that the appropriate standard of review of USPTO findings are the standards set forth in the Administrative Procedure Act ("APA") at 5 U.S.C. 706 (1994). The APA provides two standards for review – an arbitrary and capricious standard and a substantial evidence standard. The Appellant respectfully submits that the discussion in the preceding paragraphs (see Clear Error #10, Clear Error #11, Clear Error #12, Clear Error #13 and Clear Error #14) clearly shows that the relevant Office Action and Examiner's Answer fail to provide even a scintilla of evidence to support the allegation that the written description is not enabling and that as a result the rejections fail to meet the substantial evidence standard.

The Appellant respectfully submits that the written description rejection of claim 75, claim 77, claim 78, claim 79, claim 80, claim 82, claim 83, claim 84, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 93, claim 94 and claim 95 also fails to pass the arbitrary and capricious test because:

a) prior U.S.P.T.O. fact-findings have shown that a written description that enables someone of average skill of the art to replicate the full scope of the claimed invention does not appear to be a requirement for the allowance and issue of a patent. This appears to be particularly true when the applicant is a large company. For example, U.S. Patent 7,395,236 describes an invention that relies on a stored model of each instrument in a portfolio to calculate a "risk value" for each instrument when given a vector of scenario risk factors. Among other things, the specification does not appear to describe: how these instrument models are developed, how to develop a scenario, how to develop a vector of scenario risk factors, how instrument models calculate a risk value when given a vector of scenario risk factors and/or the types of risk factors that are considered. As a result of these apparent omissions, no part of the claimed invention can be replicated by anyone of average skill in the art without considerable experimentation to determine:

> 1) how to develop instrument models that calculate a risk value when given a vector of scenario risk factors,

> 2) how a scenario and a related vector of scenario risk factors are identified, and/or

> 3) what types of risk factors should be considered .

The documented pattern of allowing an apparent violation of 35 USC 112 in patents issued to large companies can also be observed in related appeals,

b) it is well established that written descriptions are adequate if they teach someone of

average skill in the art how to replicate the full scope of a claimed invention. The fact-findings for the instant application (see Clear Error #9) and prior U.S.P.T.O. fact-findings, including the fact-findings for related appeals for applications 09/761,670, 09/764,068, 09/940,450, 10/025,794 and 10/743,417, have provided substantial evidence that those authoring and signing the February 11, 2008 Office Action and the March 18, 2009 Examiner's Answer appear do not appear to have the level of skill in the art required to evaluate a written description, and

c) as shown under Clear Error #13, the activity combinations used in the Markush groups which are the apparent basis for all written description rejections are almost fully explained in the model development description which the Examiner has not questioned.

Because the claim rejections do not meet either standard of the APA, the prima facie case of a lack of enablement can not be properly established. Recognizing this clear error in the grounds for rejection will reverse the written description rejection of claim 75, claim 76, claim 77, claim 78, claim 79, claim 80, claim 81, claim 82, claim 83, claim 84, claim 85, claim 86, claim 87, claim 88, claim 89, claim 90, claim 91, claim 92, claim 93, claim 94, claim 95 and claim 96.

Summarizing the preceding discussion, the written description rejections for the above referenced application contain a number of clear errors. Recognition of any one of these clear errors (except Clear Error #14 which only involves some of the rejected claims) is sufficient grounds to reverse all the rejections under 35 U.S.C. 112, first paragraph.

Any failure to cite a specific error regarding a representation made in the Office Actions and/or Examiner's Answer for the above referenced application is not an admission that the representation is true. The Appellant has simply chosen to list 15 of the more notable errors in the arguments and evidence presented to date in this reply brief.

Errata

In the process of preparing the reply brief for the instant application, the Appellant identified clerical errors in the claims. The Appellant has attached a revised set of claims with amendments to claims 82 and 87 that correct these clerical errors and put the claims in final form for allowance and issue.

As noted in the Appeal Brief, the Appellant has offered to amend the specification to incorporate material from cross referenced patents in accordance with 37 CFR 1.57 to obviate the claim rejections. The specific amendment that would be made is detailed below. Change the paragraph that begins on line 17 of page 80 in the specification to read as shown below:

The software in block 408 retrieves information from the xml summary table (177) and the analysis definition table (178) as required to determine what type of analysis will be completed and define a model for analysis. As mentioned previously, there are two types of analysis that may be completed by the software in this block – analyzing the impact of forecast changes and optimizing a subset of the enterprise. Analyzing the impact of changes to future values of external factors, segments of value, components of value, value drivers and/or elements of value requires recalculating value for the affected portions of organization value and comparing the new totals for the organization to the value information stored in the xml summary table (177). The results of this comparison, are then stored in the analysis definition table (178) before processing advances to software block 410. Alternatively, if the analysis involves optimizing a subset of the enterprise then the software in block 408 defines and initializes a probabilistic simulation model for the subset of the enterprise that is being analyzed. One embodiment of the probabilistic simulation models are Markov Chain Monte Carlo models, however, other simulation or optimization models such as linear programs can be used with similar results. The model is defined using the information retrieved from the xml summary table (177) and the analysis definition table (178) and then iterateds as required to ensure the convergence of the frequency distribution of the output variables. After the calculation has been completed, the software in block 408 saves the resulting information in the analysis definition table (178) before processing advances to software block 410.

Additional language from cross referenced patent 5,615,109 can be added via amendment under with 37 CFR 1.57 if the Board feels that additional information is required. However, because linear program optimization is not unique to the instant application, additional explanation would not appear to be required (*see Automotive Technologies. International, Inc. v. BMW of North America, Inc., 501 F.3d 1274, 1277 (Fed. Cir. 2007)*).

Conclusion

A valid patent application rejection requires substantial evidence (Gartside, 203 F.3d at 1312). As described in the preceding section, the February 11, 2008 Office Action and the March 18, 2009 Examiner's Answer for the instant application do not contain any evidence that would support the rejection of a single claim. However, related appeals, a recently issued patent, the February 11, 2008 Office Action and the March 18, 2009 Examiner's Answer for the instant application do provide substantial evidence that: those authoring/signing the Office Action do not appear to understand any of the scientific and/or engineering principles applicable to the pertinent art. There is also substantial evidence that those authoring the Office Action and Examiner's Answer do not adhere to any of the well established statutory requirements for authoring valid claim rejections, and that those authoring the Office Action and Examiner's Answer appear to have based the claim rejections on the use of different standards than those used for the review and allowance of similar applications filed by large companies.

For the extensive reasons advanced above, Appellant respectfully but forcefully contends that each claim is patentable. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,
Asset Trust, Inc.

/B.J. Bennett/

B.J. Bennett, President
Dated: June 17, 2009

Reply Brief Claims Appendix

75.   A program storage device readable by a computer, tangibly embodying a program of instructions executable by at least one computer to perform an enterprise management method, comprising:

preparing a plurality of data related to a commercial enterprise for use in processing, developing a computational model of enterprise market value by element of value and segment of value by completing a series of multivariate analyses that utilize at least a portion of said data, and

completing activities selected from the group consisting of: determining an element of value contribution, quantifying an element of value impact on enterprise financial performance, completing an analysis of enterprise financial performance, optimizing one or more aspects of enterprise financial performance, simulating an enterprise financial performance, optimizing a future enterprise market value, quantifying a future enterprise market value, creating a management report, valuing an enterprise market sentiment, calculating a real option discount rate, valuing a real option, valuing a share of enterprise stock, determining a target share price and combinations thereof

where a segment of value further comprises a current operation, a derivative segment and a segment of value selected from the group consisting of market sentiment, real option, excess financial asset and combinations thereof.

76. The program storage device of claim 75 where a real option segment of value is valued using a discount rate that is a function of the relative ranking of one or more enterprise elements of value.

77. The program storage device of claim 75 where the elements of value are selected from the

group consisting of alliances, brands, channels, customers, customer relationships, employees, employee relationships, intellectual capital, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

78. The program storage device of claim 75 where preparing data for use in processing further comprises integrating data from a plurality of enterprise related systems in accordance with a common schema.

79. The program storage device of claim 75 where optimizing one or more aspects of enterprise financial performance further comprises identifying one or more value driver changes that will optimize of one or more aspects of financial performance where said aspects of financial performance are selected from the group consisting of revenue, expense, capital change, cash flow, current operation value, real option value, derivative value, future market value, market sentiment value, market value and combinations thereof.

80. The program storage device of claim 75 wherein a series of multivariate analyses are selected from the group consisting of identifying one or more previously unknown item performance indicators, discovering one or more previously unknown value drivers, identifying one or more previously unknown relationships between one or more value drivers, identifying one or more previously unknown relationships between one or more elements of value, quantifying one or more inter-relationships between value drivers, quantifying one or more impacts between elements of value, developing one or more composite variables, developing one or more vectors, developing one or more causal element impact summaries, identifying a best fit combination of predictive model algorithm and element impact summaries for modeling enterprise market value and each of the components of value, determining a net element of value impact for each segment of value, determining a relative strength of a plurality of elements

of value between two or more enterprises, developing one or more real option discount rates, calculating one or more real option values, calculating an enterprise market sentiment value by element of value, and combinations thereof.

81. The program storage device of claim 80 wherein a predictive model algorithm is selected from the group consisting of neural network; classification and regression tree; generalized autoregressive conditional heteroskedasticity, regression; generalized additive; redundant regression network; rough-set analysis; Bayesian; multivariate adaptive regression spline and support vector method.

82. The program storage device of claim 75 wherein enterprise related data are obtained from systems selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases and combinations thereof.

83. The program storage device of claim 75 wherein an enterprise further comprises a single product, a group of products, a division or an entire company.

84. The program storage device of claim 75 wherein a computational model of enterprise market value further comprises a combination of models selected from the group consisting of a predictive component of value model, a real option discount rate model, a real option valuation

model, a derivative valuation model, an excess financial asset valuation model, a market sentiment model by element of value and combinations thereof.

85. The program storage device of claim 75 where a Markov Chain Monte Carlo model is used to identify one or more changes that will optimize one aspect of enterprise financial performance, genetic algorithms are used to identify changes that will optimize one or more aspects of enterprise financial performance and multi-criteria optimization models are used to identify the changes that will optimize two or more aspects of enterprise financial performance.

86. An enterprise management apparatus, comprising:

a plurality of enterprise related systems,

means for preparing data from said systems for use in processing, and

means for developing a computational model of enterprise market value by element of value and segment of value

where a segment of value further comprises a current operation, a market sentiment segment and a segment of value selected from the group consisting of real option, derivative, excess financial asset and combinations thereof.

87. The apparatus of claim 86, that further comprises means for completing activities selected from the group consisting of: determining an element of value contribution, quantifying an element of value impact on enterprise financial performance, completing an analysis of enterprise financial performance, optimizing one or more aspects of enterprise financial performance, simulating an enterprise financial performance, optimizing a future enterprise market value, quantifying a future enterprise market value, creating a management report, valuing an enterprise market sentiment, calculating a real option discount rate, valuing a real option, valuing a share of enterprise stock, determining a target share price and combinations

thereof.

88. The apparatus of claim 86 where an element of value is selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, employee relationships, intellectual capital, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

89. The apparatus of claim 86 where preparing data for use in processing further comprises integrating and converting data from a plurality of enterprise related systems in accordance with a common schema.

90. The apparatus of claim 87 where optimizing one or more aspects of enterprise financial performance further comprises identifying value driver changes that will optimize of one or more aspects of financial performance where said aspects of financial performance are selected from the group consisting of revenue, expense, capital change, cash flow, current operation value, real option value, derivative value, future market value, market sentiment value, market value and combinations thereof.

91. The apparatus of claim 86 wherein developing a computational model of enterprise market value by element and segment of value further comprises completing a series of multivariate analyses that are selected from the group consisting of identifying one or more previously unknown item performance indicators, discovering one or more previously unknown value drivers, identifying one or more previously unknown relationships between one or more value drivers, identifying one or more previously unknown relationships between one or more elements of value, quantifying one or more inter-relationships between value drivers, quantifying one or more impacts between elements of value, developing one or more composite variables,

developing one or more vectors, developing one or more causal element impact summaries, identifying a best fit combination of predictive model algorithm and element impact summaries for modeling enterprise market value and each of the components of value, determining a net element of value impact for each segment of value, determining a relative strength of a plurality of elements of value between two or more enterprises, developing one or more real option discount rates, calculating one or more real option values, calculating an enterprise market sentiment value by element of value, and combinations thereof.

92. The apparatus of claim 91 wherein a predictive model algorithm is selected from the group consisting of neural network; classification and regression tree; generalized autoregressive conditional heteroskedasticity, regression; generalized additive; redundant regression network; rough-set analysis; Bayesian; multivariate adaptive regression spline and support vector method.

93. The apparatus of claim 86 wherein a plurality of related systems are selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, estimating systems, intellectual property management systems, process management systems, supply chain management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, purchasing systems, web site systems, the Internet, external databases and combinations thereof.

94. The apparatus of claim 86 wherein an enterprise further comprises a single product, a group of products, a division or an entire company.

95. The apparatus of claim 86 wherein a computational model of enterprise market value further comprises a combination of models selected from the group consisting of a predictive component of value model, a real option discount rate model, a real option valuation model, a derivative valuation model, an excess financial asset valuation model, a market sentiment model by element of value and combinations thereof.

96. The apparatus of claim 86 where a Markov Chain Monte Carlo model is used to identify one or more changes that will optimize one aspect of enterprise financial performance, genetic algorithms are used to identify changes that will optimize one or more aspects of enterprise financial performance and multi-criteria optimization models are used to identify the changes that will optimize two or more aspects of enterprise financial performance.

10. Reply Brief Appendix

Pages 34 – 38   declaration under rule 132, received June 5, 2009

Serial No.:   10/287,586

Applicant: Jeff S. Eder

Filed: November 5, 2002

Examiner: Yehdegga Retta

Art Unit: 3693

Docket No.:   AR - 38

Customer No: 53787

DECLARATION UNDER RULE 132

I, Rick Rauenzahn, do hereby declare and say:

My home address is 529 Calle don Leandro, Espanola, New Mexico. I have a B.S. degree in chemical engineering from Lehigh University, an S.M. degree in chemical engineering from The Massachusetts Institute of Technology and a Ph.D. in chemical engineering from The Massachusetts Institute of Technology. I have worked in the mathematical modeling field for 26 years concentrating in the disciplines of fluid mechanics, turbulence modeling, numerical methods for partial differential equations, radiation hydrodynamics, and strength of materials. I also have extensive knowledge of computer system administration, particularly for Windows-based, Linux, and UNIX systems. I have been employed by Los Alamos National Laboratory and Molten Metal Technologies for the past 25 years.

I further declare that I do not have any direct affiliation with the application owner, Asset Reliance, Inc. or with its licensee Kantrak, Inc. As described in prior declarations I have met the inventor who is the President of Kantrak.

On November 26, 2008 I was given a copy of "How to sort out the premium drivers of post-deal value" from Mergers and Acquisitions from July/August 1993, Vol. 28, Iss.1; pg. 33, 5 pgs by Daniel W. Bielinski (hereinafter, Bielinski), 'Neural Networks Enter the World of Management Accounting""; Management Accounting; Montvale, NJ; May 1995, 5 pages, by Carol Brown, James Coakley, & Mary Ellen Phillips (hereinafter Brown), pages 56, 172 and 173 from <u>Creating shareholder value</u>; by Alfred Rappaport, The Free Press, U.S.A., Declaration Under Rule 132 for Application 10/287,586, dated July 21, 2008 by Dr. Peter Brous and a copy of application 10/287,586. On May 12, 2009 I was given a copy of "What is Value Based Management?" by Timothy Koller. Until that time I had not read the articles, the book pages, the declaration or the application although I have read other applications that are similar including application 09/761,670, application 09/688,983, application 10/287,586 and application 10/821,504. Application 10/298,021 is a continuation of application 09/938,874. I am totally familiar with the language of the claims and conversant with the scope thereof. I completely understand the invention as claimed.

It is my understanding that the Examiner for this application has proposed combining the teachings of Bielinski together with the teachings of Brown to replicate the neural network models developed by the above referenced application. Based on my experience and training in the field of mathematical modeling and electronic data processing, I have concluded that the proposed combination of Bielinski and Brown would destroy the ability of the Value Based Management method taught by Bielinski to function.

Understanding why the functionality of the system described by Bielinski would be destroyed requires some background. Neural networks complete their processing by using a squashing function (usually a sigmoid) that combines data inputs in a linear or non-linear fashion as best fits the data before producing an output. Squashing functions typically have output values between 0 and 1. For prediction models the output node is sometimes given a linear activation function to provide forecasts that are not limited to the zero to one range. The tree based analysis of cash flow taught by Bielinski relies on a finite number of inputs to each node of a tree. The inputs to each node are mathematically combined to produce a value that is passed on up the tree for

mathematical combination in another node (Figure 2 in Bielinski confirms the linear nature of the model). For example, Bielinski discusses breaking the operating profit margin value driver into revenue minus cost of goods sold where the cost of goods sold is further broken down into materials, human resources, technology/capital and other (see diagram below). Bielinski labels these latter four cost categories operational value drivers.

```
                              Value
            _____|_____
           |                                 |
    Cost of Capital                     Cash Flow
                      _____|_____
                     |                                 |
            Operating Profit Margin            Capital Investment
        _____|_____
       |                                 |
    Revenue                      Cost of Goods Sold
                      _____|_____
                     |          |          |          |
                 Materials  Human Resources  Technology   Other
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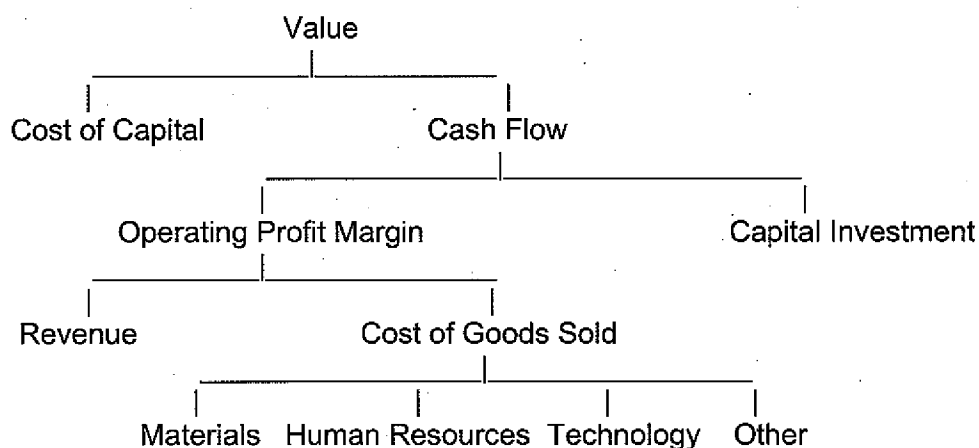
Replacing all or part of the tree with a neural network would destroy the ability of the tree to complete the processing required for the VBM analysis in a number of ways. Replacing part of the tree shown above with a neural network would destroy the ability to complete required processing. The reason for this is that the output value from a neural network (generally between 0 and 1) could not be used to produce the proper input value for the node at the next level as required to complete the mathematical processing of the tree. For example a neural network node could not subtract cost of goods sold from revenue to generate operating profit margin. Replacing the entire tree shown above with a neural network would exacerbate this problem as each intermediate node of the tree would receive only inputs between zero and one that could not combine to produce the required output values for use as inputs to higher level nodes. If the cash flow tree shown above was entirely replaced by a neural network (as claimed) where lower level nodes became nodes in hidden layers within the network, then the same problem with output values would prevent proper functioning at higher level nodes and additional problems would be created. One of these additional problems would be that the user would lose his or her ability to select the inputs to a

node because neural networks determine the combination of inputs that are best suited to produce output values for the next layer in the network during training. The user would also lose the ability to determine the number of nodes and their relationship for similar reasons. In all cases discussed above, the assumption of linearity that is implicit in the use of a tree could also be violated by substituting a neural network for any part of the tree.

Because the lowest level of the Value Based Management analysis method taught by Bielinski contains sub components of value such as production labor and material cost, the Bielinski model also teaches away from the modeling method disclosed in application 10/287,586 which has value drivers for elements of value at the lowest level, elements of value at the second level and subcomponents of value at the third level.

Another way in which Bielinksi teaches away from the method disclosed in application 10/287,586 and all other Asset Reliance applications I have reviewed is that Bielinski uses a single tree for both calculating the actual cash flow and identifying the accounts where the revenue, expense and capital charges are incurred.

The Asset Reliance applications I have reviewed create a series of predictive models (in the case of 10/287,586 the predictive model is a neural network model) that use element of value impact summaries as inputs in order to identify the contribution of different elements of value to each of the components of value and to other categories or segments of value (i.e. investments, market sentiment, derivatives). The percentages identified by the predictive model are then combined with the value of the component, category or segment value to calculate a value impact for each element of value.

Modifying Bielinski to use element impact summaries in place of account data would destroy the ability of the Bielinski invention to function as would replacing the tree with a predictive model.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these

statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

Signed,

Rick M. Rauenzahn

Date: May 16, 2009